PLANNING FOR SAFETY

SPORT SAFETY THROUGH RISK MANAGEMENT

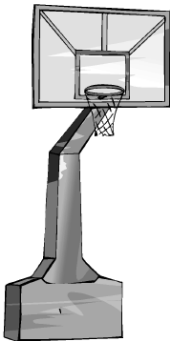
By its very nature, physical activity can present some risk of injury. One of the key responsibilities of the coach is to manage the potential risks that present themselves during practice or competition.

The main risk factors can be categorized as follows:

Environmental Risks

Factors related to the weather or its effects on the practice or competition site.

Examples: Lightning, rain, puddles/mud on the playing surface, heat and humidity, cold.



Equipment and Facilities Risks

Factors related to the quality and operating conditions of equipment and facilities.

Examples: A ski binding that does not release, ill-fitting helmet, damaged gymnastics apparatus, debris on the playing surface.

Human Risks

Factors related to athletes and the people associated with them, such as parents, coaches, officials, and event organizers. Human risks may also be related to athletes' individual characteristics (e.g. height, weight, level of physical preparation, ability) or behaviour (e.g. carelessness, panic, aggression). Human factors related to coaches include their training and experience, their supervision of athletes, and the decisions they make about situations they put athletes in.

Examples: Matching athletes of uneven strength and ability in a combative sport, forgetting to spot a gymnastics athlete.

Strategies for Managing Risk

Information to Gather
❑ Risks of the activity
❑ Athletes' medical information
❑ Athletes' contact information in case of emergency
❑ Facility safety checklist
❑ Past injury reports

Actions to Take
❑ Planning
❑ Designing an Emergency Action Plan
❑ Inspecting equipment and facilities
❑ Informing athletes and parents
❑ Supervising activities

Information to Gather
❑ Phone numbers and addresses of athletes, their parents, the ambulance service, the police force, the fire department, and the public safety service.
❑ Medical conditions of each athlete (e.g. illnesses, allergies, disabilities, injuries), person to contact in an emergency situation, and procedures to follow if an emergency occurs (e.g. administer a specific medication).
Keep this information in a waterproof binder that you can carry with you to the training or competition site. **Find out if 911 services are accessible from your facility or if there is medical support on-site.**

Actions to Take

Planning

- ❑ Ensure that activities are appropriate for athletes' age, fitness, and ability level.
- ❑ Ensure that the practice starts with a warm-up and that the activities include a reasonable progression and challenge for the athletes.
- ❑ Adjust activities for athletes who cannot perform them as planned for the larger group.

Designing an Emergency Action Plan

- ❑ Guidelines for designing an Emergency Action Plan appear later in this document.

Inspecting Equipment and Facilities

- ❑ Ensure that you are fully aware of the specific safety standards related to the equipment used in your sport.
- ❑ Take an inventory of collective and individual equipment.
- ❑ Take an inventory of available first-aid equipment. Carry a first-aid kit at all times. (See Appendix 1 for an example of the contents of a first-aid kit.)
- ❑ Assess the safety of the facility itself (e.g. walls, playing area, lighting) by completing a facility safety checklist (see Appendix 2 for an example)
- ❑ Identify environmental, equipment and facilities, and human risk factors.
- ❑ Ensure that athletes wear their protective equipment and that it is properly adjusted and in good condition.

Informing Athletes and Parents

- ❑ Inform parents and athletes of the risks inherent in the sport.
- ❑ Fully explain the safety procedures and instructions related to all activities, and check that athletes understand them.
- ❑ When explaining an activity during a practice or competition, highlight potential risks.
    - **Examples:** If athletes are required to cross paths, ask them to keep their heads up and to be alert to where others are as they are moving around; if it has just rained and your team is practising on wet grass, remind your athletes that the field is slippery.

Supervising Activities

- ❑ Ensure that the number of athletes involved is not so high as to compromise supervision and safety.
- ❑ Keep in mind that athletes need constant supervision. Stop all activities when you have to leave the room or site or delegate responsibility for the group to a competent person.
- ❑ Look for signs of fatigue and aggression in athletes; if necessary, stop the activity.

Summary

Preventing Sport-related Injuries: What to Do and When to Do It
Before the Season
❑ Have each athlete complete a medical profile ❑ Inform parents of possible risks ❑ Ensure facilities and equipment meet established safety requirements ❑ Create and fill in a facility safety checklist ❑ Review last season's injuries or common injuries in your sport
During the Season
Before a practice or competition ❑ Inspect equipment and facilities ❑ Meet with the officials ❑ Prepare an Emergency Action Plan ❑ Plan specific safety measures for the practice/competition **During a practice or competition** ❑ Inform athletes of specific safety measures relating to activities, facilities, and equipment ❑ Ensure there is proper supervision ❑ Evaluate athletes ❑ Ensure that fair play principles are followed **After a practice or competition** ❑ Store equipment safely ❑ Fill in an accident report if necessary
After the Season
❑ Keep an accident/injury report log

HEAT AND HUMIDITY AS RISK FACTORS

The Challenge of Exercising in the Heat

- During exercise, the muscles produce heat. This heat must be dissipated, or the body runs the risk of overheating. Overheating can result in serious, potentially life-threatening injuries.
- Sweating is one of the heat-dissipating mechanisms of the body. When sweat evaporates, it cools off the body.
- Most sport activities lead to heat production and sweating. Evaporation of sweat works best when the air is dry. In moist, damp air, sweat cannot evaporate easily, and cooling off is harder.
- If the air temperature is high during vigorous activity, athletes can lose a significant amount of water through sweating.
- High temperatures and high relative humidity make it hard for the body to dissipate heat; heavy sweating occurs, but the water lost does not help cool off the body. Under these conditions, athletes run the risk of overheating.
- Water lost as a result of heavy sweating can lead to dehydration. Dehydration can reduce performance, decrease the body's ability to dissipate heat, and endanger health.
- During exercise in the heat, adequate hydration is a must. Athletes must drink water whenever the risk of dehydration is present.
- Thirst is not a good indicator of a need for water. In fact, dehydration has already started if an athlete feels thirsty.
- In most exercise conditions, the rate at which athletes lose water exceeds the rate at which they can absorb it by drinking. Exercise in a hot environment accentuates this. Athletes therefore need to drink fluids *before* they are thirsty.
- Because their sweating mechanism is not fully developed, children run a higher risk of overheating when exercising in the heat. In addition, children tend to not drink enough during exercise, especially if the drink is not flavoured.

Steps to Take to Avoid Heat Injuries

- ❑ Give athletes enough time to get used to the environment they will face in competition. Insisting on heat acclimatization may mean not entering competitions or adjusting duration and intensity of training if athletes cannot train in a similar climate for approximately two weeks beforehand.

- ❑ To protect athletes (especially young children) from the potentially harmful effects of ultraviolet (UV) rays, have them do the following:
    - Wear a hat or a cap with a visor
    - Wear UV protecting sunglasses
    - Wear clothes that cover the upper part of the body, the neck, the arms, and the legs
    - Use sun screen lotion (protection factor of 30 or more) on exposed skin, including the face and hands
    - Avoid exposing their body to the sun without effective protection when the UV index is high
    - If possible, train in the shade

- ❑ Before exercise, athletes should drink 400 to 600 mL of fluid.

- ❑ During exercise, athletes should drink 150 to 250 mL of fluid every 15 minutes. Remind athletes to drink, lead by example, and never restrict athletes from drinking during a practice or competition.

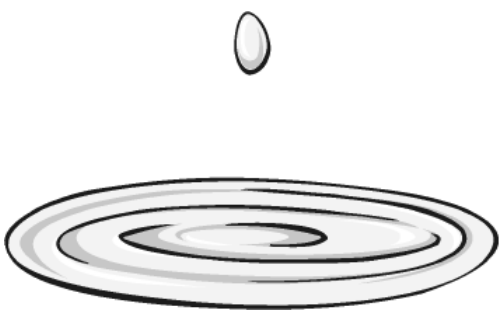
- ❑ After exercise, athletes should rehydrate by drinking as much fluid as thirst dictates; athletes may have to force themselves to drink.

- ❑ Beverages should be cool (8° to 10°C) and not too sweet; children prefer flavoured sport drinks, and using them encourages children to drink.

- ❑ Tell athletes to bring a personal water bottle with cold fluids to each practice or competition; inform parents about the importance of hydration; make sure each bottle is clean and well identified.

- ❑ Tell athletes to monitor their hydration level by checking their urine. If it is dark, if there is not much of it, and if it has a strong smell, athletes are probably dehydrated and should force themselves to drink.

Note: Pay particular attention to these steps during the first few hot days of spring or summer, when athletes are not yet acclimated to hot and humid weather.



The Humidex

- The humidex is a useful guide to assessing the risk of exercising in hot and humid conditions.
- The humidex describes how hot and humid weather feels to the average person. The humidex combines the temperature and humidity into one number to reflect the perceived temperature.
- Because it takes into account both heat and humidity, the humidex provides useful information about the risks of exercising in the heat.
- The table below shows the humidex value for various air temperatures and levels of relative humidity. For instance, if the air temperature is 25°C and the relative humidity is 70%, the humidex is 32°C. This means that the sensation of heat when it is 25°C and the relative humidity is 70% is about the same as when it is 32°C and the air is dry (20% relative humidity).

RELATIVE HUMIDITY (%)

TEMPERATURE (°C)	**15**	**20**	**25**	**30**	**35**	**40**	**45**	**50**	**55**	**60**	**65**	**70**	**75**	**80**	**85**	**90**	**95**	**100**
20						20	20	21	22	22	23	24	24	25	25	26	27	27
21						21	22	22	23	24	24	25	26	26	27	28	29	29
22					22	22	23	24	25	25	26	27	27	28	29	30	30	31
23					23	24	24	25	26	27	28	28	29	30	31	31	32	33
24					24	25	26	27	28	28	29	30	31	32	33	33	34	35
25				25	26	26	27	28	29	30	31	**32**	33	33	34	35	36	37
26				26	27	28	29	30	31	32	33	33	34	35	36	37	38	39
27				27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
28			28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
29			29	30	31	32	33	35	36	37	38	39	40	41	42	43	45	46
30			30	31	33	34	35	36	37	39	40	41	42	43	44	46	47	48
31			32	33	34	35	37	38	39	40	42	43	44	45	47	48	49	50
32		32	33	34	36	37	38	40	41	42	44	45	46	48	49	50	51	53
33		33	34	36	37	39	40	41	43	44	46	47	48	50	51	53	54	55
34		34	36	37	39	40	42	43	45	46	48	49	51	52	53	55	56	58
35		36	37	39	40	42	43	45	47	48	50	51	53	54	56	57	59	
36		37	39	40	42	44	45	47	49	50	52	53	55	57	58	60		
37	37	38	40	42	44	45	47	49	51	52	54	56	58	59				
38	38	40	42	43	45	47	49	51	53	54	56	58	60					
39	39	41	43	45	47	49	51	53	55	57	59							
40	41	43	45	47	49	51	53	55	57	59								

Guidelines for Exercising at Different Humidex Values

The guidelines below are provided for a heat-acclimated, well-hydrated person.

Humidex Value	Discomfort at Rest	Risk of Overheating during Exercise
Below 24°C	None	Low to moderate
25 to 29°C	None	Moderate
30 to 39°C	Some	High – Children should be monitored closely
40 to 45°C	Great	Very high – Exercise is not advised for children, older people, or individuals with a poor fitness level
Above 45°C	Great Risk of overheating even at rest	Extreme – Exercise is not advised for any athlete

If the humidex is above 30°C, and especially if it exceeds 35°C:

- ❑ Tell athletes to bring extra water or sport drinks, ensure there will be access to water during the practice or competition, and bring a big jug of fluids.
- ❑ Tell athletes to dress in loosely fitting, lightweight, light-coloured clothes.
- ❑ Plan for low-intensity activities.
- ❑ Plan for shorter work bouts, with frequent and longer pauses.
- ❑ Schedule practices early in the morning or during the evening; avoid the hours between 10 a.m. and 6 p.m.
- ❑ Consider changing the location of the practice to a shaded area, or ask athletes to bring umbrellas to create shade during breaks.
- ❑ Consider exercising indoors, in a facility with air conditioning.
- ❑ Consider alternatives to physical exercise.

COLD AS A RISK FACTOR

The Challenge of Exercising in the Cold

- The colder the environment, the faster the body temperature decreases.
- During exercise in a cold environment, the skin can become wet as a result of sweating or exposure to rain or snow. A wet skin surface cools the body faster than a dry surface.
- The temperature may drop considerably once the sun has set; this can quickly increase the risk associated with exercising in a cold environment.
- Wind magnifies the perception of cold and increases the rate at which the body loses heat. This effect can be further amplified if the skin is wet.
- In cold weather, high humidity makes a temperature feel colder than the air temperature indicates it is.
- It is generally easier to tolerate the cold when the air is dry; however, cold, dry air makes it hard for some asthmatics to breathe.
- Skin can freeze when exposed to very cold temperatures, and circulation slows when this happens. Tissue can be damaged if frostbite is prolonged and extensive. Extremities (toes, fingers, nose, ears) are particularly at risk in cold temperatures, because the body shunts blood flow to central organs and tissues to maintain the body's core temperature.
- In severe cold, brain function can slow down, and so risk of further injury in prolonged exposure increases.
- Children get cold much faster than adults, and their skin is more likely to freeze. People with less body fat usually have less tolerance for cold than those with more body fat.
- Muscles and other soft tissues that are cold are more susceptible to injuries such as pulls and tears, especially if movements are sudden and intense.
- In very dry, cold environments, loss of water vapour through breathing and the evaporation of sweat from exposed surfaces may lead to dehydration.
- Wearing appropriate clothing can be a challenge when exercising in the cold. Clothes must protect against the cold while not impairing the body's ability to get rid of heat produced during exercise. Heavy clothing can be cumbersome and may interfere with movement; it can also increase air resistance in some sports where speed is critical. On the other hand, the thin clothing used in many sports often offers little protection from cold and wind.
- Some fabrics can wick water from the body surface (e.g. synthetics such as polypropylene or Gore-Tex®), reducing the risk of heat loss. Other fabrics trap heat (e.g. cotton or nylon), increasing the risk of heat loss.

Steps to Take to Avoid Cold Injuries

- ❑ Ensure athletes wear sufficient clothing for the conditions, and layer clothing as follows:
    - **Layer closest to skin:** Polypropylene, close fitting (wicking effect)
    - **Second layer:** Fleece or wool, slight room between first layer and second layer for "trapped air" effect
    - **Third layer:** Wind-breaking, water repellent, breathable layer
- ❑ When it is very cold, ensure athletes expose as little skin as possible to the cold air.
- ❑ Once the body has warmed up and if the temperature is not too cold, consider having athletes remove the second layer of clothing during exercise to avoid excessive sweating. Add a layer or use blankets to keep warm during breaks or pauses.
- ❑ Recommend that athletes apply antiperspirant to their feet before they exercise to lessen sweating of the feet (which is usually followed by cooling of the feet). Those who tend to sweat a lot in their gloves or mitts may find that applying antiperspirant to the palm of their hands makes their hands feel less cold.
- ❑ Make sure athletes hydrate properly when exercising in the cold.
- ❑ Bring children inside when they say they are cold; it is not worth the risk to prolong exercise and have them suffer from frostbite. Once a person suffers serious frostbite, the risk of subsequent frostbite in the same area may be increased.

- ❑ Never send athletes out into the cold alone or without a way of communicating with you or an emergency centre; avoid prolonged activities in which athletes are in isolated areas and risk becoming exhausted.
- ❑ When the weather is very cold and athletes must train outdoors, hold your practices between 11 a.m. and 2 p.m., as these tend to be the warmest hours of the day. Be aware that the temperature drops quickly when the sun sets.
- ❑ Tell athletes and their parents to consider the combined effect of cold and wind, not simply the temperature, when deciding how to dress; the combination of cold and wind is called wind chill (see page 20). Do the same when you make coaching decisions about what activities to do and when to do them.
- ❑ If possible, choose areas that are protected from the wind; avoid activities in open areas.
- ❑ Ensure that athletes wear protective eyewear to prevent snow reflection from damaging eyes and to protect from the cold and the wind.
- ❑ Have athletes or their parents bring a change of clothing, especially socks and underwear, to practices or competitions. Try to find a warm and protected spot to change.

- ❑ Inform athletes and their parents that athletes should always wear a hat when exercising in the cold; over 30% of body heat may escape through the head. Ensure that athletes cover their ears to avoid frostbite.

- ❑ Allow additional time for warming up for training and competition; it takes longer to get the body warmed up and ready for sport in cold weather than it does in warm weather.

Wind-Chill Factor

At certain temperatures, wind may greatly increase the perception of cold. The wind-chill factor is an index that combines air temperature and wind velocity. It measures the rate at which living creatures lose body heat to the environment. The wind chill is not a temperature in the strict sense, but a temperature-like number that quantifies the sensation of cold. It was created to help reduce the risk of frostbite and other cold related injuries. The wind-chill factor should be consulted before exercising in the cold, as it provides more useful information regarding the best way to dress than temperature alone.

The table below shows the equivalent temperature (°C) felt by the human body as a result of the combined effects of ambient temperature and wind velocity. At a temperature of –20°C, a 20 km/h wind will result in a cold sensation equivalent to –30°C.

WIND VELOCITY (km/h)

TEMPERATURE (°C)	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
5	4	3	2	1	1	0	0	-1	-1	-1	-2	-2	-2	-2	-3	-3
0	-2	-3	-4	-5	-6	-6	-7	-7	-8	-8	-8	-9	-9	-9	-10	-10
-5	-7	-9	-11	-12	-12	-13	-14	-14	-15	-15	-15	-16	-16	-16	-17	-17
-10	-13	-15	-17	-18	-19	-20	-20	-21	-21	-22	-22	-23	-23	-23	-24	-24
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-25	-30	-33	-35	-37	-38	-39	-40	-41	-42	-42	-43	-43	-44	-44	-45	-45
-30	-36	-39	-41	-43	-44	-46	-47	-48	-48	-49	-50	-50	-51	-51	-52	-52
-35	-41	-45	-48	-49	-51	-52	-53	-54	-55	-56	-57	-57	-58	-58	-59	-60
-40	-47	-51	-54	-56	-57	-59	-60	-61	-62	-63	-63	-64	-65	-65	-66	-67
-45	-53	-57	-60	-62	-64	-65	-66	-68	-69	-69	-70	-71	-72	-72	-73	-74
-50	-58	-63	-66	-68	-70	-72	-73	-74	-75	-76	-77	-78	-79	-80	-80	-81

The table below shows how quickly frostbite can occur in adults when skin is suddenly exposed to the cold. Frostbite occurs faster in children; it also occurs faster if the skin exposed to the cold is cooler than it normally is at room temperature.

Wind-Chill Factor (°C)	Frostbite Can Occur In:
-25	**45 minutes**
-35	**10 minutes**
-60	**2 minutes**

EMERGENCY ACTION PLAN (EAP)

An Emergency Action Plan (EAP) is a plan coaches design to help them respond to emergency situations. Preparing such a plan in advance will help you respond in a responsible and clear-headed way if an emergency occurs.

An EAP should be prepared for the facility or site where you normally hold practices and for any facility or site where you regularly host competitions. For away competitions, ask the host team or host facility for a copy of their EAP.

An EAP can be simple or elaborate. It should cover the following:

- ❑ Designate in advance who is **in charge** if an emergency occurs (this may be you).
- ❑ **Have a cell phone** with you and make sure the battery is fully charged. If this is not possible, find out the exact location of a telephone you can use at all times. Have spare change in case you need to use a pay phone.
- ❑ Have **emergency telephone numbers** with you (facility manager, superintendent, fire, police, ambulance), as well as athletes' contact numbers (parents/guardians, next of kin, family doctor).
- ❑ Have on hand a **medical profile for each athlete** so that this information can be provided to emergency medical personnel. Include in this profile signed consent from the parent/guardian to authorize medical treatment in an emergency.
- ❑ Prepare **directions** for Emergency Medical Services (EMS) to follow to reach the site as quickly as possible. You may want to include information such as the closest major intersection, one-way streets, or major landmarks.
- ❑ Have a **first-aid kit** accessible and properly stocked at all times (all coaches are strongly encouraged to pursue first-aid training).
- ❑ Designate in advance a **call person**: the person who makes contact with medical authorities and otherwise assists the person in charge. Be sure that your call person can give emergency vehicles precise directions to your facility or site.

When an injury occurs, the EAP should be activated immediately if the injured person:

- ❑ Is not breathing
- ❑ Does not have a pulse
- ❑ Is bleeding profusely
- ❑ Has impaired consciousness
- ❑ Has injured the back, neck, or head
- ❑ Has a visible major trauma to a limb

Note: See Appendices 1 through 4 for a number of EAP-related forms and checklists.

Emergency Action Plan Checklist

Access to telephones 	❑ Cell phone, battery well charged ❑ Training venues ❑ Home venues ❑ Away venues ❑ List of emergency phone numbers (home competitions) ❑ List of emergency numbers (away competitions) ❑ Change available to make phone calls from a pay phone
Directions to access the site	❑ Accurate directions to the site (practice) ❑ Accurate directions to the site (home competitions) ❑ Accurate directions to the site (away competitions)
Athlete information	❑ Personal profile forms ❑ Emergency contacts ❑ Medical profiles
Personnel information	❑ The person in charge is identified ❑ The call person is identified ❑ Assistants (charge and call persons) are identified

❑ **The medical profile of each athlete should be up-to-date and be in the first-aid kit.**

❑ **A first-aid kit must be accessible at all times and must be checked regularly.**

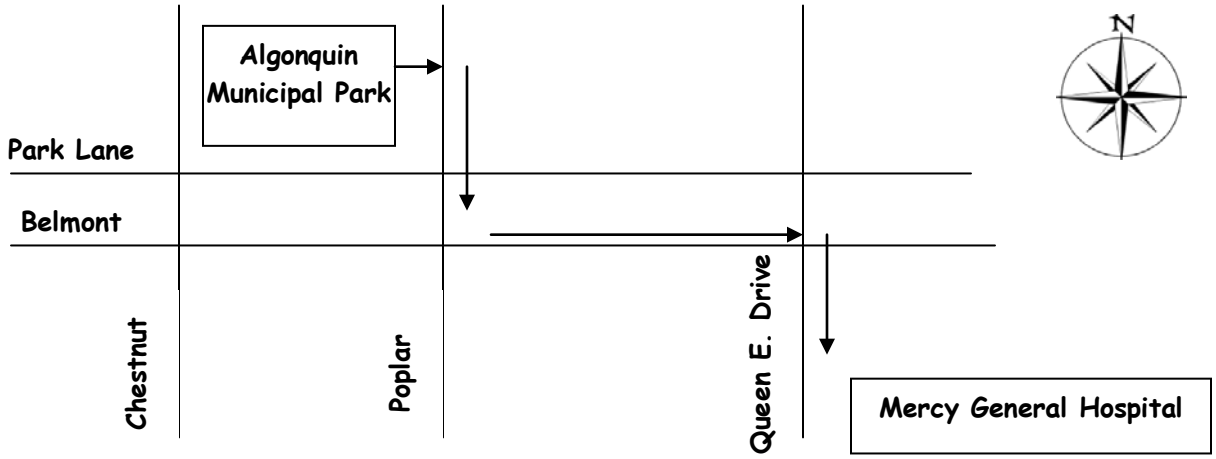
Sample Emergency Action Plan

Contact Information

Attach the medical profile for each athlete and for all members of the coaching staff, as well as sufficient change to make several phone calls if necessary. The EAP should be printed two-sided, on a single sheet of paper.

Emergency phone numbers:	9-1-1 for all emergencies
Cell phone number of coach	(xxx) xxx-xxxx
Cell phone number of assistant coach:	(xxx) xxx-xxxx
Phone number of home facility:	(xxx) xxx-xxxx
Address of home facility:	Algonquin Municipal Park 123 Park Lane, between Chestnut St. and Poplar St. City, Province/Territory, Postal Code
Address of nearest hospital:	Mercy General Hospital 1234 Queen Elizabeth Drive City, Province/Territory, Postal Code
Charge person (1st option):	Suzy Chalmers (coach)
Charge person (2nd option)	Joey Lemieux (assistant coach)
Charge person (3rd option):	Angela Stevens (parent, nurse, usually on site)
Call person (1st option):	Brad MacKenzie (parent, cell xxx-xxxx)
Call person (2nd option)	Sheila Stevens (parent, cell xxx-xxxx)
Call person (3rd option):	Stefano Martinez (parent, cell xxx-xxxx)

Directions to Mercy General Hospital from Algonquin Municipal Park



Sample Emergency Action Plan (cont'd)

Roles and Responsibilities

Charge Person

- ❑ Reduce the risk of further harm to the injured person by securing the area and sheltering the injured person from the elements
- ❑ Designate who is in charge of the other athletes. If nobody is available for this task, cease all activities and ensure that athletes are in a safe area.
- ❑ Protect yourself (wear gloves if in contact with body fluids such as blood)
- ❑ Assess ABCs (check that the airway is clear, breathing is present, a pulse is present, and there is no major bleeding)
- ❑ Wait by the injured person until EMS arrives and the injured person is transported
- ❑ Fill in an accident report form

Call Person

- ❑ Call for emergency help
- ❑ Provide all necessary information to dispatch (e.g. facility location, nature of injury, description of first aid that has been done, allergies and other medical problems for that athlete)
- ❑ Clear any traffic from the entrance/access road before ambulance arrives
- ❑ Wait by the driveway entrance to the facility to direct the ambulance when it arrives
- ❑ Call the emergency contact person listed on the injured person's medical profile

Steps to Follow When an Injury Occurs

Note: It is recommended that emergency situations be simulated during practice to familiarize coaches and athletes with the steps below.

Step 1: Control the environment so that no further harm occurs

- ❑ Stop all athletes
- ❑ Protect yourself if you suspect bleeding (put on gloves)
- ❑ If outdoors, shelter the injured athlete from the elements and from any traffic

Step 2: Do an initial assessment of the situation

If the athlete:

- ❑ Is not breathing
- ❑ Does not have a pulse
- ❑ Is bleeding profusely
- ❑ Has impaired consciousness
- ❑ Has injured the back, neck, or head
- ❑ Has a visible major trauma to a limb
- ❑ Cannot move his or her arms or legs or has lost feeling in them

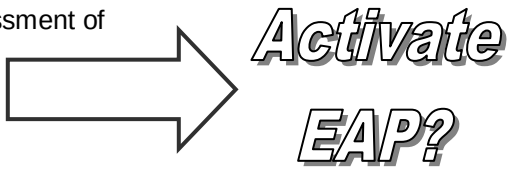
If the athlete does not show the signs above, proceed to Step 3

Step 3: Do a second assessment of the situation

- ❑ Gather the facts by talking to the injured athlete as well as anyone who witnessed the incident
- ❑ Stay with the injured athlete and try to calm him or her; your tone of voice and body language are critical
- ❑ If possible, have the athlete move himself or herself off the playing surface; do not attempt to move an injured athlete.

Step 4: Assess the injury

- ❑ Have someone with first-aid training complete an assessment of the injury and decide how to proceed.
- ❑ If the person trained in first aid is not sure of the severity of the injury or no one present has first-aid training, activate EAP.
- ❑ If the assessor is sure the injury is minor, proceed to Step 5.



Step 5: Control the return to activity

Allow an athlete to return to activity after a minor injury only if there is no:

- ❑ Swelling
- ❑ Deformity
- ❑ Continued bleeding
- ❑ Reduced range of motion
- ❑ Pain when using the injured part

Step 6: Record the injury on an accident report form and inform the parents

HEAD INJURIES AND CONCUSSIONS

The following information is presented as a series of guidelines only. Head injuries *must* be treated by a qualified medical professional.

Head injuries and concussions can occur in many sports, either in training or during competitions. Because of the potentially serious consequences of injuries to the head, coaches must take certain precautions and should enforce strict safety measures when dealing with such injuries.

The information contained in this section is not designed to train coaches on how to implement a medical treatment or to offer medical advice if a concussion occurs. Rather, its purpose is to provide some recommendations on *how to manage situations involving head injuries in a responsible manner*. It is important to note that there is currently a lack of consensus in the medical community regarding precise grading scales and criteria for returning to training or competition following a concussion.

What Is a Concussion?

A concussion is an injury to the brain that results from a hit to the head or to another part of the body that allows the transmission of impact forces to the head. A concussion manifests itself as a temporary alteration in mental state; it may also be accompanied by physical symptoms.

Some Common Causes of Concussions

The situations that may result in head injuries vary greatly from sport to sport. Producing a comprehensive list of possible causes is therefore difficult. However, some common causes include:

- Direct blows to the head, face, jaw, or neck
- Collisions from the blind side or hits from behind
- Hard fall on the buttocks or a whiplash effect
- Poor quality of protective sport equipment (shock absorption), failure to wear protective head equipment, or improper adjustment of such equipment
- The environment (e.g. obstacles near a playing surface)
- Significant differences in the skill level, age, or size of athletes involved in activities with physical contact or risk of impact
- Poor physical condition or insufficient strength in the neck and upper-body musculature

Symptoms of a Concussion

Symptoms of a concussion include headache, dizziness, loss of consciousness, nausea, lethargy, memory loss, confusion or disorientation (lack of awareness of time, place, date), vacant stare, lack of focus, ringing in the ears, seeing stars or flashing lights, speech impairment, balance impairment, and problems with sight.

Other signs may include a major decrease in performance, difficulty following directions, slow responses to simple questions, and inappropriate or unusual reactions (laughing, crying) or behaviours (change in personality, illogical responses to sport situations).

A person can suffer from a concussion *without* losing consciousness.

Managing an Athlete with Symptoms of a Concussion

Take the following short-term measures if an athlete suffers a concussion:

- ❑ Arrange to have an unconscious athlete with significant changes in mental state following a head injury transported to the emergency department of the nearest hospital by ambulance. This is a serious situation, and the athlete *must be seen by a medical doctor immediately*. In such a situation, the *Emergency Action Plan must be implemented*.

- ❑ Do not allow an athlete showing *any* symptoms of a concussion to return to the current practice or competition.

- ❑ Do not leave an athlete showing symptoms of a concussion alone, and make sure that he or she is monitored for any deterioration in his or her condition. The athlete should be medically evaluated as soon as possible after the injury. The circumstances of the injury should be recorded and communicated to the medical personnel.

- ❑ If any of the symptoms of concussion reoccur, the athlete's condition should be considered serious, and the individual *must* go to hospital immediately.

Managing an Athlete's Return after a Concussion

Although an athlete may have received authorization to return to regular training and competition, this must be done gradually. The athlete must be re-evaluated periodically during the weeks that follow his or her return to ensure that there are no recurring symptoms.

Listed below are a series of steps to help coaches manage the return to training or competition of an athlete who has suffered a concussion. Each step should take at least one day, although each step may be longer or shorter depending on individual circumstances (Step 5 applies predominantly to sports that involve body contact).

Step 1: No activity, complete rest; if no symptoms are observed for one full day, proceed to Step 2.

Step 2: Low-intensity continuous exercise, such as walking, jogging, or cycling on a stationary bicycle; if no symptoms are observed, proceed to Step 3.

Step 3: Low-intensity, sport-specific activity without contact; if no symptoms are observed, proceed to Step 4.

Step 4: Moderate-intensity, sport-specific training activities without body contact; if no symptoms are observed, proceed to Step 5.

Step 5: Regular practice with body contact if it is required by the sport (no hard impact); if no symptoms are observed, proceed to Step 6.

Step 6: Return to regular training and to competition.

If symptoms do recur, the athlete must *immediately* stop any form of activity and be examined by a medical doctor before resuming training or competition. It is extremely important for the athlete, the coach, and the medical personnel to be open and frank when evaluating the athlete's condition. If recurring symptoms are not disclosed, the athlete may suffer permanent damage.

Repeated Concussions

Some data suggest that after a first concussion, athletes are at greater risk of future concussions. If an athlete has a history of repeated concussions, he or she should participate in sport activities only after obtaining *full clearance* to do so from a medical professional.

Note: This information is based on the summary and agreement statement of the first International Symposium on Concussion in Sport, held in Vienna in 2001, and on a brochure produced by Judo Canada entitled *Safety First - What You Need To Know About Concussions*. The Coaching Association of Canada is grateful to the Concussion in Sport Group and its chair, Dr. Karen M. Johnston, Division of Neurosurgery, McGill University Health Centre, and to Judo Canada's sport director, Andrzej Sadej, for permission to adapt this material. The Coaching Association of Canada also wishes to express its thanks to Dr. Johnston for reviewing this text.

COACH LIABILITY

More than ever before, coaches are aware of the risks and responsibilities they assume when they coach. These risks and responsibilities include those that are legal in nature. No matter what their certification, experience, employment or volunteer status, sport discipline, or location of residence, coaches at all times have a *legal obligation to provide a safe environment for athletes.*

To understand this obligation more fully, coaches must understand some key legal principles, including negligence and liability. Coaches must also understand concepts and techniques related to risk management. With this knowledge, coaches can determine the applicable standard of care, can assess their own coaching situation for risks, and can put in place appropriate measures to manage these risks.

Negligence

Negligence is a term with precise legal meaning. The term relates to standards of behaviour that the law expects, and understanding the law of negligence is an essential first step in learning how to provide a safe environment for athletes.

In general terms, negligence refers to behaviour or action that falls below a "reasonable standard of care." The law in Canada demands that we behave in a particular way so that others who might be affected by our actions are not exposed to an unreasonable risk of harm. The standard of behaviour coaches are expected to meet is termed an "objective" standard. As adults and as coaches, we are all credited with the same general intelligence and sensibility, and the law therefore expects each of us to behave in a reasonable fashion in similar situations.

The law does not expect coaches to be *perfect* in his or her behaviour; rather, the law expects coaches to be *reasonable* and act as other reasonable coaches would in the same circumstances.

It is widely accepted that there is a certain amount of risk in many sport activities and that such risk is knowable, foreseeable, acceptable, and, depending on the sport, even desirable. What is unacceptable in sport is behaviour that puts athletes at unreasonable risk or in danger.

A coach's conduct is negligent when all four of the following occur:

- ❑ A duty of care exists (such as the one that exists between a coach and an athlete).
- ❑ That duty imposes a standard of care that the coach does not meet.
- ❑ An athlete or some other person experiences harm.
- ❑ The failure to meet the standard of care can be shown to have caused or substantially contributed to the harm.

For the coach, the standard of care is the most important of the above elements. The standard of care is what the coach *should* do in a given situation. Standard of care is difficult to define precisely because it is influenced by the risk inherent in the surrounding circumstances. Thus, the duty to act responsibly remains constant, but the specific behaviour required to fulfil that duty changes with the circumstances.

Determining what the *standard of care* is in any given circumstance involves looking to four sources:

- **Written standards –** these are government regulations, equipment standards, rules for a particular sport or facility, rules from a sport governing body, coaching standards and codes of conduct, and other internal risk-management policies and procedures.

- **Unwritten standards –** these are norms or conventions in a sport, an organization, or a facility that might not be written down, but are nonetheless known, accepted, and followed.

- **Case law –** these are court decisions about similar situations. Where the circumstances are the same or similar, judges must apply legal principles in the same or similar ways. Earlier decisions of the court are a guide, or *precedent*, for future decisions where the facts are similar.

- **Common sense –** this means simply doing what feels right, or avoiding doing what feels wrong. Common sense is the sum of a person's knowledge and experience. Trusting one's common sense is a good practice.

The responsible and prudent coach is familiar with written policies that govern him or her, is aware of unwritten norms and practices, knows something of the case law as it applies to coaches, and has learned to trust his or her intuitive judgment and common sense.

Liability

Where all four conditions of the legal definition of negligence have been met, negligence of the coach may be established. What follows then is the question of liability. While negligence refers to *conduct*, liability refers to *responsibility* for the consequences of negligent conduct. Responsibility may lie with the coach who was negligent or with another person or entity.

For example, an insurance policy transfers the financial liability for negligence to an insurance company. A valid waiver of liability agreement might eliminate liability entirely. An injured athlete may be partially responsible for his or her injuries and thus may share liability with the negligent coach. And a sport organization may be liable for the negligent actions of its coach, whether he or she is an employee or a volunteer.

Liability can also refer to responsibility for the consequences of conduct that fails to meet a predetermined legal standard other than the standard of care in a situation where negligence occurs. In addition to arising from negligence, liability can arise when a law is broken or a contract is breached. The prudent coach avoids these types of liability by obeying laws and complying with contractual agreements.

In sum, an understanding of the legal meaning of *negligence* answers the coach's question: How does the law expect me to behave? The follow-up question is: How can I be sure that my behaviour will meet this expectation? The answer to this question lies in *risk management*.

Risk Management

Risk management is about taking steps to identify, measure, and control risks. This involves spending time thinking about potentially risky situations, deciding which situations might pose serious risks, and determining what steps to take to minimize those risks. The common ingredient in all these tasks is common sense.

There are four strategies for controlling risks, all of which are important to coaches:

- **Retain the risk –** the risk is minor and is inherent in the sport activity, and the coach is willing to accept the consequences. The coach therefore does nothing about the risk. In sport, this is often a legitimate risk-management strategy.
- **Reduce the risk –** the risk is moderately significant and the coach takes measures to reduce the likelihood of the risk occurring or minimize its consequences if the risk occurs; the coach does this by planning carefully, supervising athletes appropriately, and educating athletes.
- **Transfer the risk –** the risk is significant and it is transferred to others through contracts, including waivers and insurance.
- **Avoid the risk –** the risk is severe and the coach decides to avoid anything that may cause the risk.

A word of caution: there is no template, formula, or checklist for managing risk. The law expects coaches to provide a safe environment for athletes, but what that means for a coach's conduct will vary with circumstances, including athletes' age and skill level and the environment where the coaching activity occurs.

The Coach's Personal Risk-Management Plan

The informed and prudent coach protects himself or herself by implementing a personal risk-management plan. This plan helps the coach in two ways. First, it promotes a safe program and helps prevent injuries from occurring. Second, it helps protect the coach from liability claims when an injury cannot be prevented.

Coaches can, and should, practise their own personal risk management by following this ten-point plan:

1. Be familiar with and adhere to applicable standards, both written and unwritten, as well as internal policies and rules governing the facility, the sport, and your program.
2. Monitor your athletes' fitness and skill levels, and teach new skills in a progressive fashion suitable to their age and skills. *Never* leave young athletes unsupervised.
3. If you do not have access to medical personnel or a qualified trainer, keep adequate first-aid supplies on hand; ideally, you should be trained in administering first aid.
4. Develop an Emergency Action Plan for the facility or site where you regularly hold practices or competitions. Carry with you, at all times, emergency contact numbers and athletes' medical profiles.

5. Inspect facilities and equipment before every practice and competition. Take steps to ensure any deficiencies are corrected immediately, or adjust your activities accordingly to avoid the risk.
6. Work with your employer or sport organization to develop and use appropriately worded assumption-of-risk agreements in your programs. Where appropriate, develop and use agreements waiving liability; these are suitable only for adult athletes.
7. You *should* be covered by the liability insurance policy of your employer if you are paid for your coaching services, by the liability insurance policy of your organization if you are a volunteer coach. Find out whether you are covered. If you aren't, obtain your own insurance.
8. Don't be afraid to stop or withdraw from any activity that poses unreasonable risks. This could include stopping a practice or removing your team or your athletes from a competition.
9. Trust your common sense and intuition!
10. Actively pursue your own training, professional development, and coaching certification.

Note: See Appendix 5 for answers to some key questions on liability.